



(10) International Publication Number
WO 03/061660 A1

PCT

- (51) **International Patent Classification⁷:** **A61K 31/496**, C07D 209/44, 217/16, 401/12, 409/12, 405/12, A61P 3/04, 3/10, 15/10
- (21) **International Application Number:** PCT/US03/00033
- (22) **International Filing Date:** 21 January 2003 (21.01.2003)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:** 60/351,200 23 January 2002 (23.01.2002) US
- (71) **Applicant (for all designated States except US):** **ELI LILLY AND COMPANY** [US/US]; Lilly Corporate Center, Indianapolis, IN 46285 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **BACKER, Ryan, Thomas** [US/US]; Apartment 804, 410 North Meridian, Indianapolis, IN 46204 (US). **COLLADO CANO, Ivan** [ES/ES]; Lilly S.A., Avenida de la Industria, 30, E-28108 Alcobendas (ES). **DE FRUTOS-GARCIA, Oscar** [ES/ES]; Lilly S.A., Avenida de la Industria, 30, E-28108 Alcobendas (ES). **DOECKE, Christopher, William** [AU/US]; 7515 East 80th Street, Indianapolis, IN 46256 (US). **FISHER, Matthew, Joseph** [US/US]; 10650 Quail Ridge Court, Mooresville, IN 46158 (US). **KUKLISH, Steven, Lee** [US/US]; 11417 Trenton Court, Fishers, IN 46038 (US). **MANCUSO, Vincent** [BE/BE]; Lilly MSG Development Centre S.A., Parc Scientifique de Louvain-la-Neuve, Rue Granbompre' 11, B-1338 Mont-Saint-Guibert (BE). **MARTINELLI, Michael, John** [US/US]; 1935 Mulsanne Drive, Zionsville, IN 46077 (US). **MULLANEY, Jeffrey, Thomas** [US/US]; 6153 Welker Drive, Indianapolis, IN 46236 (US). **ORNSTEIN, Paul, Leslie** [US/US]; 10441 Bosahan Court, Carmel, IN 46032 (US). **XIE, Chaoyu** [CN/US]; 5705 Ottawa Pass, Carmel, IN 46033 (US).
- (74) **Agents:** **JANG, Soonhee et al.;** Eli Lilly and Company, P.O. Box 6288, Indianapolis, IN 46206-6288 (US).
- (81) **Designated States (national):** AE, AG, AL, AM, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) **Designated States (regional):** ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Declarations under Rule 4.17:**
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, B
- ⁷Continued on next page

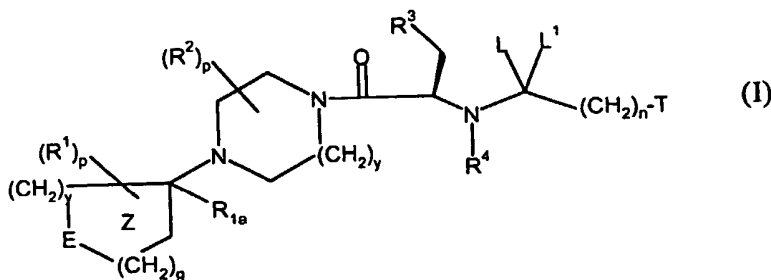
Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY,

[Continued on next page]

(54) Title: MELANOCORTIN RECEPTOR AGONISTS



(57) Abstract: The present invention relates to melanocortin receptor agonist of the formula (I): which is useful in the treatment for obesity, diabetes, and male and/or female sexual dysfunction.

WO 03/061660 A1